

THE INDEXING OF MARINE REPORTS.

The meteorologist daily needs an index to all stations at which observations have been made, and a second index to the places where the data are published, either in tabular summaries or on charts. He needs an index for ocean data as well as for land data, and these indexes for printed matter should be supplemented by a third, relative to unpublished manuscript matter preserved in archives and libraries. The German Government has begun to meet these needs as far as relates to marine records by publishing its *Tabellarische Reiseberichte*, or table of the log books of steamers and sailing ships preserved in the library of the *Deutsche Seewarte* at Hamburg. The first volume related to the year 1903, and the second brings the record down to the end of 1904. As the number of logs is so great the index includes only the more important, but after careful sifting we find that the second volume includes 1500 long voyages by about five hundred different vessels. For each voyage the index gives the dates, the locations, the times of entering and leaving the trade regions, and in special cases the highest and lowest latitudes, the dates of storms, the ocean currents, temperatures, and interesting local phenomena, such as meteors, auroras, ice floes and icebergs, and sudden changes of wind or weather. This work is an elaboration of similar undertakings by the English, Russian, and French governments, and is a continuation of the indexes or guides (*fuehrer*) prepared by Knipping, Koeppen, and other officials at the *Seewarte* since 1896.

We are informed that other nations, and possibly the United States, are preparing analogous indexes to their archives. We recall vividly the huge mass of log books collected by Matthew F. Maury between 1840 and 1860, which were destroyed as waste paper about 1869 or 1870, and we hope that such a fate will not befall the modern collection of marine reports. All that we know of ocean meteorology is embalmed in these old log books, whose contents have as yet been very imperfectly analyzed and studied. Notwithstanding their great volume and awkward shape, they should be preserved for at least a century, as it is certain that they will be needed by those who will study meteorology when we are dead and gone.

What would we not now give for full records of Hakluyt, Dampier, and earlier voyagers, and the possibility thereby afforded of studying the changes in the oceanic climates? What an invaluable contribution would it not be if we could recover that continuous record of the height of the Nile at Cairo, which runs back more than three thousand years, but nearly all of which has been lost, excepting here and there a fragment? If we are unable to answer many queries as to secular changes in climate, it is largely because we have lost the records preserved by engineers and observers from most ancient dates. Students search for these old records among the hieroglyphs of Egypt, the cuneiform records of Assyria, the old writings of China and India, the annals and diaries of the monasteries of the Middle Ages; and it is certain that generations hence will search for such fragments of our own records as may survive the ravages of time.

The ancients long since discovered that papyrus and parchment were destructible and that burned clay tablets or bricks were the most enduring of all. We have learned that if the light of the sun and the oxygen of the air are shut out we may preserve the very best of our tender paper records, in properly built libraries, for only a few centuries. They are worthy all the care that we can bestow upon them; it is a sad sight to behold unique, invaluable records, inscribed on the poorest paper, crumbling to dust under the influence of mildew, sunlight, and the noxious vapors given off by our gas lights. They should be studied from many points of view, indexed, and summarized before they disappear.—C. A.

THE PUBLICATION OF THE CHICAGO MEMOIRS.

Many of these memoirs were published in Parts I, II, and III of the *Weather Bureau Bulletin* 11, but the most important memoirs on the dynamics and physics of the earth's atmosphere still await publication. This delay was caused primarily by the assignment of Doctor Fassig to other duties; no provision having been made for the publication of these important papers, except a general understanding given by Professor Harrington that the Weather Bureau would be responsible for the work, the completion of *Bulletin* 11 was assigned to the Editor of the *MONTHLY WEATHER REVIEW*, and at present it seems likely that the unpublished memoirs will almost necessarily be printed first in the pages of the *MONTHLY WEATHER REVIEW*, as time and opportunity may occasionally allow.

Bulletin 11, or the Report of the International Meteorological Congress held at Chicago, Ill., was planned to contain memoirs as follows:

Section I, pp. 1-67. Weather services and methods.

Section II, pp. 68-149. Rivers and floods.

Section III, pp. 150-206. Marine meteorology.

Section IV, pp. 207-394. History and bibliography.

Section V, pp. 395-459. Agricultural meteorology.

Section VI, pp. 460-583. Atmospheric electricity and terrestrial magnetism. (Two important memoirs by Neumayer on ocean meteorology and terrestrial magnetism, respectively, were apparently lost in the mails, and have in substance been rewritten and published elsewhere.)

Section VII, pp. 585-686. Climatology.

Section VIII, pp. 687-772. Instruments and methods of investigation.

Section IX, theoretical meteorology, and Section X, thunderstorms and local storms, still await publication.—C. A.

THE WARMTH OF DECEMBER, 1905.

In the *MONTHLY WEATHER REVIEW* for August, 1894, p. 329, we had occasion to figure on the meteorological influence of a forest fire. We now notice that a daily newspaper has started the idea that possibly changes in climate, such as the mild weather of December, 1905, may be due to the great consumption of coal, especially in our large cities. It is a sufficient answer to this suggestion to say that more coal is consumed in proportion as the weather is colder, and that the warmth of December, 1905, should not be attributed to the coal consumed, any more than should the cold of December, 1904. A correspondent estimated that 100,000 tons are consumed daily in New York city. Possibly 5 per cent of the heat thus produced is added to the atmosphere as the latent heat of steam, while 95 per cent belongs to the dry gases, the CO_2 , of the atmosphere. According to the best engineering figures a pound of coal, as used for making steam, evaporates from 12 to 15 pounds of water, 20 per cent of the heat being useless as far as the engine is concerned. This steam adds a little more moisture to the air of a large city, as well as a corresponding amount of heat to its atmosphere. On the other hand the sun itself pours a large quantity of heat into the city. Thus, during December, 1905, in the latitude of New York, the surface of the ground receives an average of 2.7×1375.2 calories per square centimeter per day; a vertical column receives much more than a horizontal area at this latitude and season of the year; the total received by a surface normal to the sun's rays, that is to say by the atmosphere itself, amounts to very nearly 2.0 gram calories per square centimeter per minute, or about 960 gram calories per day of eight hours of average sunshine. As there are many millions of square centimeters in a square mile we see at once that the amount of heat poured into the atmosphere over the total area of New York by the sun is so immensely superior to that furnished by the burning of 100,000 tons of coal that the latter is unimportant in general climatological studies.—C. A.